

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Takashi Horai et al.
Application No. : 10/693,314
Filed : October 24, 2003
For : METHOD AND APPARATUS FOR RECORDING DATA IN
OPTICAL RECORDING MEDIUM AND OPTICAL RECORDING
MEDIUM

Examiner : Latanya Bibbins
Art Unit : 2633
Docket No. : 890050.445
Date : December 7, 2006

Commissioner of Patents
Washington, DC 20231

DECLARATION OF KOICHI OISHI
UNDER 37 C.F.R. § 1.131

Sir:

I, Koichi Oishi, hereby declare as follows:

1. I am the named partner of the patent firm Oishi & Partners. I am the founder of that firm and the lead partner. I have passed the Japanese Patent Agent exam and therefore am a registered Japanese patent agent, which is commonly referred to in the trade as a Japanese patent attorney.
2. My patent law firm, Oishi and Partners which prepared the corresponding Japanese priority document bearing Application No. 2002-316216 and filed that application in Japan. In addition, it was our firm, under my control and direction, which prepared the English translation and the filing papers of the U.S. application which was subsequently filed in the U.S. Patent and Trademark Office and bears the above-referenced serial number 10/693,314 and a U.S. filing date of October 24, 2003.
3. Attached hereto as Exhibit A to my declaration is a true and correct printout from our patent law firm's computer system as evidence of our beginning to work on the patent application which resulted in the present application having been filed.

4. Attached as Exhibit B is a true and correct copy of the invention disclosure received by our firm from TDK in a personal meeting that took place on July 12, 2002.

5. On the attached Exhibit A, the relevant headings and information are labeled in box numbers #1, #2, #3 and #4. I will refer to specific boxes and the translations of those boxes from Exhibit A. Box #1 indicates that the applicant of the newly received invention disclosure is from TDK Corporation.

6. Box #2 indicates the name of the person in charge of the technical matter which has been received from the client. My name, Mr. Oishi, has been printed in the box as the technical person in charge of the matter at our patent law firm. Box #3 contains a place in which the patent application number is to be written. As can be seen there, the patent application number is provided, which is Japanese Application No. 2002-316216, which corresponds to the original Japanese application number of the priority document. Box #4 has a heading which reads "Docketing Reception." The mark on the lower left side of box 4 are the words "Received Date" and the block which has been filled in for the received date is July 12, 2002.

7. Exhibit A is therefore documentary evidence that our office received, on July 12, 2002, the invention disclosure attached hereto as Exhibit B.

8. Exhibit A is therefore conclusive evidence by our firm that on July 12, 2002, patent attorneys and staff at our firm met with the TDK personnel responsible for this invention and received the enclosed invention disclosures from them.


9. A patent liaison from TDK came to our offices on July 12, 2002, and discussed with patent attorneys of our firm the preparing of a Japanese patent application which became Patent No. 2002-316216 on which the present U.S. application is based. Specifically, TDK brought with them the first page of Exhibit B, which was prepared before July 12, 2002, and provided this to our offices.

10. This was a personal meeting that occurred in our offices in which the Exhibit B was provided and an explanation of the operational features of the invention was provided to patent attorneys at our firm so that we could begin to prepare a patent application. Accordingly, it is clear that we had in our offices in the Japanese patent law firm on July 12, 2002, the Exhibit B which is attached, which was received from TDK and which had evidence of reduction to practice of the invention on which we began to prepare an application.

Application No. 10/693,314

I hereby declare that all statements made herein of our own knowledge are true and that all statements made on information or belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the captioned patent application or any patent issued therefrom.

December 7, 2006
Date



Koichi Oishi

Attachments:
Exhibit A
Exhibit B

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#74372_1.DOC

法域	特許	SYSID 0001682	IPC	画像	要約文	通知手続	請求書M	編纂開始日	保存S	取消C	初検日	終了X	参照モード
出願国	JP	日本											
国法体系区分	基本設定												
出願番号	特願2002-316216												
最終審査													
出願整理番号	02-0107												
出願整理番号													

受付	出願準備	出願	OA	その他期限	年金	異議受	審判	ユエザ期限
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受付	出願種別	中絶受付
受付日	2002/07/12	Small Entity

調査	調査の有無	未実施
調査日		
調査結果		
調査ファイル番号		
先行技術の有無	無し	
出願ランク		

包袋	包袋番号	2
包袋の場所		

発明者	発明者	発明者
発明者	発明者	発明者

出願番号	特願2002-316216
出願整理番号	02-0107
出願種別	中絶受付
出願日	2002/07/12
出願ランク	

出願番号	特願2002-316216
出願整理番号	02-0107
出願種別	中絶受付
出願日	2002/07/12
出願ランク	

文庫・引例 #1 #2

発表状況 #3

調査 #4

34.1.1.1 A

発明者の追加 発明者の削除

CLK

write pulse for 3T

write pulse for 4T

write pulse for over 5T

Basic pattern of Non-multi pulse for 4x speed

〇上はDVD-R4倍速記録で提案されているストラテジです。

#1

	type1	type2
3T _{top}	2.25	2.25
4T _{top}	2.80	2.50
nT _{top}	1.50	1.50
nT _{wt}	(n-1)	(n-1)
nT _{lp}	1.00	1.00

・Basic Write Strategyとして左記の2タイプが決められています。
メディアによって最適なパワー比があり、おそらく実機ではその比率のもとに
最適パワーをコントロールするはずですが、
ですがTDK内での検討の結果、この2タイプの5T以上のT_{top}を長めにして
Ph/Pm比を大きく(Pmを小さく)した方が、ジッターのマーゲインが広くなる結果が得られました。

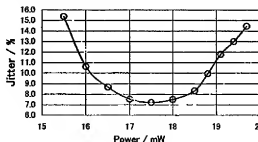
#2

「実施例」 Example

	type2	実施例 ~ Example
3T _{top}	2.25	2.25
4T _{top}	2.50	2.50
nT _{top}	1.50	1.80
nT _{wt}	(n-1)	(n-1)
nT _{lp}	1.00	1.00

Ph/Pm 1.38 1.43

Jitter-margin (4x)



Example

— type2

実施例

理由の推測ですが、

・5T以上のマークにはPm(ミドルパワー)を設定して記録するので、Ph/Pm比とT_{top}(トップパルス)とT_{lp}(ラストパルス)でマーク長を調節できます。

たとえばTDKメディアはPh/Pm 1.38、18mW程度で特性ボトムになりますが、
高パワーになったときにはPh/Pm 1.38ではなく、Pm比を上げたほうが実は特性が良い。

しかしPh/Pm比はドライブでは固定である。

それに対し、実施例はT_{top}長めにしてマーク長を形成しているので、Pmの依存性がより小さい。
よってジッターの劣化が小さい。

#3

「効果」

・ドライブのパワーバラツキ、メディアの感度バラツキに対しては広いマーゲインを持っていたほうが良いので、
実施例ストラテジが有効。

「手段」

Basic Write Strategyよりも、5T以降のマークのT_{top}長めに、Pm小さめにする。

好ましくはnT_{top} 1.70T以上2.00T以下。(いま実施例が1つしかないです。近々検討の予定)。

Exhibit B

CONFIDENTIAL